

DEPARTMENT OF THE INTERIOR, CANADA

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JACK PINE



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A JACK PINE TREE

A young jack pine grown in the open. No longer looked upon as a "weed tree", the jack pine has taken a place of some importance in Canada's timber supply, notably in its uses as railway ties and as a source of wood-pulp. For reforesting poor soils the jack pine should find considerable use, as it will grow on very poor soil. The jack pine is one of the first trees to come on burned-over areas within its range.

JACK PINE

Pinus Banksiana

Common Names: Jack pine, Banksian pine, princess pine, grey pine, scrub pine, Hudson Bay pine, cypress (Quebec and Maritime Provinces), juniper (Quebec).

French Names: Pin gris, pin de Banks, pin chétif, cyprès, pin des rochers.

The jack pine has a very wide range in Canada. It is found from Nova Scotia to the Rocky mountains and northward in the valley of the Mackenzie river to Great Bear lake. Its best development as a timber tree is reached in northern Manitoba, Saskatchewan, and Alberta.

ANNUAL CONSUMPTION AND PRESENT STAND

Although at one time looked upon as more or less of a "weed tree," the jack pine to-day is of considerable commercial importance. The growing scarcity of better material, together with the jack pine's wide distribution and common occurrence, has given it a place in the market. Exact figures of the lumber produced from this tree are not available, since they are not readily separated from those given for lodgepole pine, a closely related tree whose range overlaps that of the jack pine in certain parts of the West. The average annual production of jack pine ties and lumber is probably not less than 35,000,000 feet board measure, the greater part of this being utilized as railway ties. Some 30,000 cords are also cut for pulpwood and some 19,000,000 laths and 1,900,000,000 shingles are made each year.

Although accurate information is not available as to the quantity of jack pine still standing, there is estimated to be about 65,209,000,000 feet board measure of saw-material size in addition to 165,900,000 cords of pulpwood size.

THE WOOD: QUALITIES AND USES

The wood of the jack pine varies in colour from the creamy white of the sapwood to the brownish yellow of the heartwood. In texture and weight it is also variable, some grades having the weight and hardness of red pine and others being comparatively light and soft. The better grades have much the appearance and working qualities of red pine and are often sold mixed with it. The tree, however, does not produce a large percentage of clear lumber, most of it being very knotty.

Although the untreated wood decays rapidly when in contact with the earth, the greater part of the jack pine felled to-day is used as railway ties. In Eastern Canada it holds first place for this purpose. With the growing scarcity of other suitable material it is probable that it will continue to hold this place. Recently an improved method has been devised for economically treating jack pine

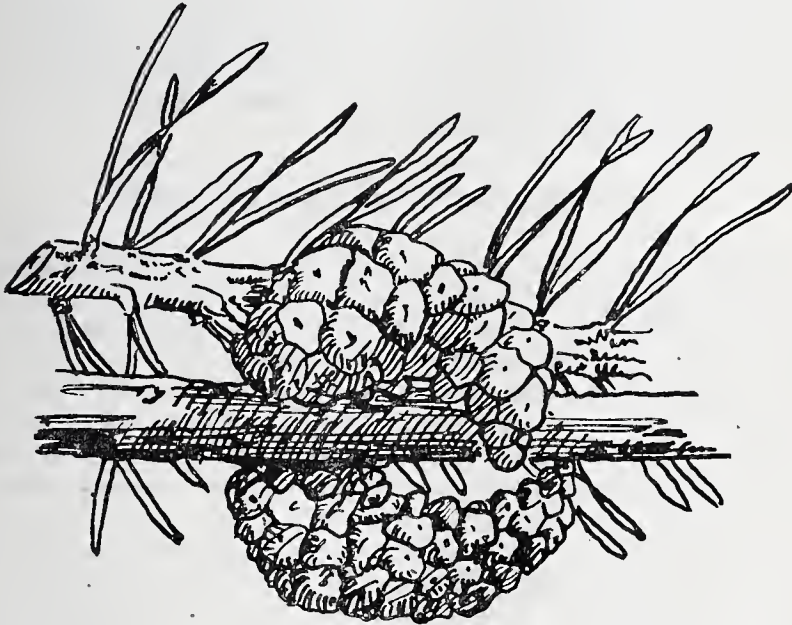
ties against decay. When this comes into general use it will result in a considerable saving of labour and material expended annually in replacing decayed ties.

Within recent years the jack pine has taken on increasing importance as a pulpwood material, since investigations have shown that with slight modifications of the processes now in use the tree can be used commercially for pulp production.

HABIT AND CHARACTERISTICS

On favourable sites and when growing in pure dense stands the jack pine develops a straight, clear trunk, and reaches a height of 60 feet and a diameter of 24 inches. When growing in the open or on unfavourable sites it is comparatively small and scrubby. Ordinarily it is about 30 to 40 feet in height with a diameter of about 12 inches. The crown, particularly on older trees, is very open, and, except where the tree is growing in dense stands, occupies about one half to two-thirds of the height of the tree.

The bark is thin and has a reddish-brown colour, with a yellowish tinge in the upper part of the tree. It is roughened by narrow rounded ridges which separate into small thick plates.



Cone and needles of Jack Pine. (Natural size)

The leaves are very short, one-half to $1\frac{1}{2}$ inches long, twisted, and in bundles of two. They are distantly set along the twigs, and

therefore the tree has strikingly thin foliage as compared with the white or the red pine.

The cones are from 1 to 2 inches long and characteristically lop-sided or humped in appearance. They are usually found in pairs, one on each side of the twig, curved and pointed towards the tip of the branch on which they are attached. The cone scales are very much thickened at the tip, and except on very young cones are without prickles. It is characteristic of the cones to remain attached to the tree unopened for several years.

The jack pine in Eastern Canada can readily be separated from its associated pines by means of its leaves, which occur in bundles of two and are short and twisted. The red pine needles, which also occur in bundles of two are several times longer than those of the jack pine. The white pine has five needles to a cluster and the pitch pine three.

The native tree which the inexperienced person is most likely to confuse with the jack pine is the lodgepole pine of British Columbia and Alberta, which associates with the jack pine in northwestern Alberta in the region about Lesser Slave lake. The bark of the lodgepole pine is, as a rule, darker than that of the jack pine. Its foliage too, is darker, having a less distinct yellowish tinge, and the leaves which are somewhat longer, have the appearance of being bunched towards the ends of the twigs in plume-like clusters. Its cones too are not inclined to remain closed to the same extent as those of the jack pine. The scale-tips as a rule are armed with a prickle, which is absent in the mature jack pine cone.

SOIL REQUIREMENTS AND SEED PRODUCTION

The jack pine is not particular as to its soil requirements. It will grow on very poor soil and is found in pure stands on very coarse sandy lands. It is also found in scrubby open stands on bare rocky situations. It, of course, makes its best growth on well drained soils of good quality, but ordinarily it is not found on the better sites, since here it comes into competition with the more shade-enduring white pine, red pine, spruce, and balsam fir. The jack pine is decidedly intolerant of shade at every period of its development.

The tree is a good seed-producer, some seed being borne practically every year. It begins to bear seed when very young—eight to ten years old when growing in a favourable open situation. It reproduces itself well, but the reproduction is often scattered, due to the habit of the cone remaining closed. This feature, however, has its compensation, for the jack pine, thereby, is often in a position to perpetuate itself on areas which a severe fire has burned over, killing all the seed-trees—many of the partially roasted cones being then opened and freed of their imprisoned seed.

PLANTING FOR USE AND ORNAMENT

Little can be said in favour of the jack pine for ornamental planting. Its irregular open habits of growth and its thin foliage find little favour in places where more attractive species may be grown. It is, however, extremely hardy and will make satisfactory growth in every province of Canada. It has proved itself a suitable tree for planting on the prairies and is being grown in considerable quantities by the Dominion Government for distribution to settlers in the West. The Ontario and Quebec Governments have also used this tree to a considerable extent for the purpose of binding loose drifting sand.

The jack pine is a very useful tree and because of its ability to thrive on poor sites it will always hold an important position in Canadian forests provided the co-operation of all citizens is secured in seeing to it that it is not needlessly wasted by forest fires.

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